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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* RICHARD THIELE, JR.

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Appeal 2009-003406  
Application 10/827,564  
Technology Center 3600

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Decided: September 24, 2009

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Before WILLIAM F. PATE, III, STEFAN STAICOVICI, and  
KEN B. BARRETT, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

## STATEMENT OF THE CASE

Richard Thiele, Jr. (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-12. Appellant's representative presented oral argument on September 15, 2009. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

## THE INVENTION

Appellant's invention is drawn toward a shovel 100 including a handle 102, a scoop portion 104 with scallops 110, and ribs 106. Spec. 2, ll. 19-22 and fig. 1.

Claim 1 is representative of the claimed invention and reads as follows:

1. An improved blade for a shovel having an elongated handle, the blade comprising:  
  
a scoop portion having a width, a length, and a leading edge furthest away from the handle;  
  
a plurality of concave scallops on the leading edge, each scallop defining a segment of a single circle;  
and  
  
wherein the segments intersect at distinct forward points in a straight line generally perpendicular to the handle.

## THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Hicks	US 342,961	Jun. 1, 1886
Johnson	US 2,782,615	Feb. 26, 1957

Vogel	US 2,787,058	Apr. 2, 1957
Dawley	US Des. 308,004	May 22, 1990

The following rejections are before us for review:

The Examiner rejected claims 2-12 under 35 U.S.C. § 112, second paragraph, as being indefinite.

The Examiner rejected claims 1, 2-7, and 9-12 under 35 U.S.C. § 103(a) as unpatentable over Hicks and Dawley or Vogel.

The Examiner rejected claim 8 under 35 U.S.C. § 103(a) as unpatentable over Hicks and Dawley or Vogel and Johnson.

### THE ISSUES

The Examiner found that Hicks discloses a shovel including a wooden scoop portion and a metallic leading edge having angular notches rather than “circular segments that intersect at distinct points.” Ans. 3. The Examiner further found that both Dawley and Vogel disclose “garden tools having scalloped cutting edges in the shape of circular segments intersecting at pointed tips.” Ans. 4. Accordingly, the Examiner concluded that:

[I]t would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the serrated cutting edge of the Hicks shovel with a circular segmented cutting edge similar to that shown in either the Dawley et al. or Vogel patent as an alternative yet functionally equivalent cutting edge that could better penetrate through ice or snow due to the pointed tips located between adjacent circular segments.

*Id.*

Appellant argues that the Examiner’s reasoning for combining the teachings of Hicks and either Dawley or Vogel, namely, “. . . to better penetrate

through ice or snow due to the pointed tips located between adjacent circular segments,” is speculative. App. Br. 3. That is, Appellant argues that the Examiner has not provided any evidence to sustain such a conclusion. Reply Br. 1. Appellant further argues that because Hicks discloses a single serrated pattern, the “Examiner’s proposed substitution would render Hicks’ article less effective for its intended purpose” and as such Hicks teaches away from making the Examiner’s proposed combination. App. Br. 4. *See also* Reply Br. 2.

Appellant further argues that the shovel of Hicks does not have a “scoop,” as required by claim 1. App. Br. 4. According to Appellant, the flat board of Hicks does not constitute a “scoop” because a “scoop” means:

. . . "a large ladle," "a deep shovel or similar implement," "a usually hemispherical utensil for dipping food," or "a small spoon-shaped utensil or instrument for cutting or gouging."

App. Br. 5.

In response, the Examiner takes the position that the flat blade and the back wall of Hicks constitute a “scoop portion.” Ans. 6. Moreover, according to the Examiner, a “scoop” is “any implement that is used to lift, shovel, or *scoop* loose material such as snow.” *Id.*

With respect to claims 2-5, Appellant argues that the Examiner’s conclusion is based on “an impermissible ‘obvious to try’ rationale.” App. Br. 5. The Examiner responds that Appellant has not shown that the particular claimed dimensions are critical or that they solve any stated problem. Ans. 7.

Lastly, Appellant argues that the prior art does not provide factual evidence to provide the ribs of Johnson to the shovel of Hicks and Dawley

or Vogel. App. Br. 6. Specifically, Appellant argues that the Examiner has not explained how the modification would be carried out, that is, would the ribs be made of wood, would the ribs be attached by nails, or would the ribs be attached by screws. *Id.*

Accordingly, the issues presented for our consideration in this appeal are as follows:

1. Has Appellant shown that the Examiner's reasoning for combining the teachings of Hicks and either Dawley or Vogel, namely, "... to better penetrate through ice or snow due to the pointed tips located between adjacent circular segments," is speculative?
2. Has Appellant shown that the Examiner erred in construing the limitation "scoop portion" as a portion that acts as a "scoop"?
3. Has Appellant demonstrated that the number of scallops and the particular dimensions of the scoop portion and the scallop radius recited in claims 2-5 patentably distinguish the subject matter of these claims over the combined teachings of Hicks and Dawley or Vogel?
4. Has Appellant shown that the Examiner erred in determining that it would have been obvious to a person of ordinary skill in the art to provide the ribs of Johnson to the shovel of Hicks and either Dowels or Vogel? The issue turns on whether the Examiner's reasoning for combining the teachings of Hicks and either Dawley or Vogel and Johnson has a rational underpinning.

## SUMMARY OF DECISION

We AFFIRM.

## FINDINGS OF FACT

The following enumerated findings of facts (FF) are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Hicks discloses a snow shovel including a wood handle, a flat wood blade having a length and a width, and a metallic shoe secured to the blade by screws or rivets and having a serrated front edge. Hicks, ll. 46-59 and figs. 1 and 2.
2. The serrated edges of Hicks' shoe form a series of cutting edges or plows that enter and break up compacted snow and ice. Hicks, ll. 42-45 and fig. 3.
3. The serrated edges of Hicks have flattened tips. Hicks, fig. 3.
4. Vogel discloses a gardening tool having a removable blade including a plurality of scallops 14. Vogel, col. 1 ll. 23-25; col. 2, ll. 34-35; and figs. 2 and 3.
5. Dawley discloses a tool for weeding and furrowing having pointed circular segmented cutting edges. Dawley, fig. 2.
6. Hicks discloses a snow shovel having eleven tips, Dawley discloses a furrowing tool having six scallops (seven tips), and Vogel discloses a weeding tool having eleven scallops (twelve tips). Hicks, fig. 1; Dawley, fig. 4; and Vogel, fig. 3.
7. Johnson discloses a dust-pan having a central portion 2 with reinforcing ribs 2a. Johnson, col. 1, l. 15; col. 2, ll. 43-44; and fig. 1.

8. An ordinary and customary meaning of a “furrow” is a “trench in the earth made by a *plow*.” Emphasis added. MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY (10<sup>th</sup> Ed. 1997).
9. Appellant’s Specification describes a shovel that is configured for both ice scraping and gardening. Spec. 4, ll. 1-2; figs. 3-5; and claims 9 and 10.
10. Appellant’s Specification describes a “scoop portion” 104 having a width “W” and a length “L.” Spec. 2, ll. 22 and 24-26.
11. Appellant’s Specification describes a “shallow” scallop where the radius of the scallop is *preferred* to be greater than one-half the distance between the points of adjacent scallops. Other *preferred* embodiments include a radius that is equal to or greater than the distance between the points of adjacent scallops. Spec. 3, ll. 12-13 and 16-20 and fig. 1.
12. Appellant’s Specification indicates that having a smaller radius would reduce wear of the points of adjacent scallops and would not leave rows of snow when shoveling. Spec. 3, ll. 14-16.

## PRINCIPLES OF LAW

### Burden

The USPTO has the initial burden of providing a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic reasonably flows from the teachings of the applied prior art. *See In re King*, 801 F.2d 1324, 1327 (Fed. Cir. 1986). Once the USPTO establishes a prima facie case of anticipation based on inherency, the burden shifts to the applicant to prove that the prior art does

not possess the characteristic at issue. *See Id.* This is the case whether the rejection is based on inherency under 35 U.S.C. § 102, prima facie obviousness under 35 U.S.C. § 103, or both jointly or alternatively. *See In re Best*, 562 F.2d 1252, 1255 (CCPA 1977).

Claim construction

When construing claim terminology in the United States Patent and Trademark Office, claims are to be given their broadest reasonable interpretation consistent with the specification, reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

Obviousness

It is elementary that to support an obviousness rejection all words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 550 U.S. at 407 ("While the sequence of these questions might be

reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.")

## OPINION

### *The rejection of claims 2-12 under 35 U.S.C. § 112, second paragraph*

In the Office Action dated September 27, 2007, claims 2-12 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Appellant has not furnished any substantive arguments against the Examiner's rejection. *See* App. Br. 2. Therefore, we summarily affirm the Examiner's rejection of claims 2-12 under 35 U.S.C. § 112, second paragraph.

### *The obviousness rejection over Hicks and Dawley or Vogel*

Appellant argues the rejection under 35 U.S.C. §103(a) of claims 1, 6-7, and 9-12 together as a group. App. Br. 2. Therefore, in accordance with 37 C.F.R. 41.37(c)(1)(vii)(2008), we have selected claim 1 as the representative claim to decide the appeal, with claims 6, 7, and 9-12 standing or falling with claim 1. In view of Appellant's arguments, we will address the rejection of claims 2-5 separately.

### *Issue (1)*

As shown above, the serrated edges of Hicks' snow shovel form a series of cutting edges or *plows* that enter and break up compact snow and ice. FF 1, 2. Similarly, Dawley discloses a tool for furrowing having pointed circular segmented cutting edges. FF 5. An ordinary and customary meaning of a "furrow" is a "trench in the earth made by a *plow*." FF 8.

Hence, we find that the scallops on the front edge of Dawley's tool form *plows* that enter and break up compact earth. Since both Hicks and Dawley disclose cutting edges that form plows, a person of ordinary skill in the art would have readily appreciated that Hicks' serrated edges and Dawley's pointed circular segmented cutting edges function in a similar manner, namely, entering and breaking (plowing) into a material (compacted snow and ice as per Hicks; earth as per Dawley). Further, we note that the serrated edges of Hicks have flattened tips, whereas Dawley's cutting edges are pointed. FF 3, 5. We find that a person of ordinary skill in the art would have readily recognized that the pointed cutting edges of Dawley would improve the entering action of the tool and hence allow the breaking action to proceed easier than the flattened tips of Hicks. As such, Appellant's claimed shovel is nothing more than the shovel of Hicks, in which the serrated edges have been substituted with the pointed circular segmented cutting edges of Dawley to improve the entering action of the tool and hence allow the breaking action to proceed easier. For the above reasons, we conclude that the teachings of Dawley reasonably support the Examiner's determination that the circular segmented cutting edge of Dawley would "better penetrate through ice or snow due to the pointed tips located between adjacent circular segments," so as to shift the burden to Appellant to show that this is not the case. Appellant has not come forward with any evidence to satisfy this burden. Although the circular segmented cutting edge of Dawley may not be an optimum substitution for the serrated edge of Hicks, as Appellant suggests, "[a] known or obvious [product] does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley*, 27 F.3d 551, 553 (Fed.

Cir. 1994). Lastly, we note that, similar to Appellant's shovel, the shovels of Hicks and Dowel are both a snow shovel and a gardening tool, respectively. *See* FF 9.

*Issue (2)*

Although we agree with Appellant's definition of the term "scoop" (App. Br. 5), we note that claim 1 requires a "scoop portion." We conclude that the term "scoop" modifies the term "portion" to indicate that the blades of Hicks and Dawley include a portion that is a "scoop" or acts as a "scoop." Claims are to be given their broadest reasonable interpretation consistent with the specification. Appellant's Specification merely describes a "scoop portion" 104 having a width "W" and a length "L." FF 10. As seen in Figure 1 of Appellant's drawings, the "scoop portion" 104 of the shovel 100 is the portion that is used for scooping. In other words, we find that the "scoop portion" 104 *acts* as a "scoop." We could not find any portion in Appellant's Specification and Appellant has not pointed to any portion that would require us to construe the term "scoop portion" to mean a "scoop" as defined by Appellant. Furthermore, accepting Appellant's proffered definition of a "scoop," a person of ordinary skill in the art would have readily recognized that a "scoop" is defined by a depth. However, Appellant's "scoop portion" 104 is defined by a width and a length," but not a depth. *See* FF 10. Similarly, Hicks discloses a blade for a snow shovel defined by a width and a length. FF 1. Accordingly, we agree with the Examiner that the broadest reasonable interpretation, consistent with the specification, of the limitation "scoop portion," is a portion defined by a width and a length that acts as a "scoop." Therefore, the blade of Hicks' shovel includes a "scoop portion," as called for in claim 1.

For the foregoing reason, the rejection of claim 1, and claims 6, 7, and 9-12 standing or falling with claim 1, over the combined teachings of Hicks and Dawley is sustained. Because we affirm the rejection based on Hicks and Dawley, we need not analyze the alternative combination of Hicks and Vogel.

*Issue (3)*

At the outset, we note that Hicks discloses a snow shovel having eleven tips, Dawley discloses a furrowing tool having six scallops (seven tips), and Vogel discloses a weeding tool having eleven scallops (twelve tips). FF 6. An artisan must be presumed to know something about the art apart from what the references disclose. *See In re Jacoby*, 309 F.2d 513, 516 (CCPA 1962). A person of ordinary skill in the art of shovels would have understood that the blade width of a snow shovel would be between 6 and 24 inches in order for the snow shovel to function as intended. The same person of ordinary skill in the art would have recognized that the number of scallops and the radius of each scallop depends on the type of work performed. Appellant's Specification describes a "shallow" scallop as a scallop having a radius "r" greater than half, substantially equal to, or greater than the distance "d" between the points of adjacent scallops. FF 11. In cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims, in order to show that the claimed invention would not have been obvious, an applicant must show that "the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990). In this case, Appellant has not made any such showing. When comparing the scallops of Dawley and Vogel with

Appellant's scallops, we find that the scallops of both Dawley and Vogel constitute "shallow" scallops. *See* fig. 4 of Dawley; fig. 3 of Vogel; and Figure 1 of Appellant's drawings. Moreover, Appellant's Specification indicates that the particular dimensions of the scallop radius are merely "preferred." FF 11. Furthermore, Appellant's touted improvement of reducing wear and not leaving rows of snow when shoveling (*see* FF 12) is limited to a snow shovel, whereas claim 1, from which claims 2-5 depend, is directed to a blade for a shovel, which encompasses any type of shovel not just a snow shovel. In conclusion, we find that Appellant has not demonstrated that the particular claimed dimensions of claims 2-5 are patentable over the applied art. Therefore, the rejection of claim 2-5 over the combined teachings of Hicks and Dawley or Vogel is likewise sustained.

*The obviousness rejection over Hicks and Dawley or Vogel and Johnson  
Issue (4)*

Johnson discloses a dust-pan having a central portion 2 (scoop portion) with reinforcing ribs 2a. FF 7. A person of ordinary skill in the art would have immediately appreciated that providing reinforcing ribs, as taught by Johnson, to the shovel of Hicks and Dawley or Vogel would provide the same benefit of providing reinforcement to the scoop portion. As such, modifying the shovel of Hicks and Dawley or Vogel to include reinforcing ribs as taught by Johnson would not have been uniquely challenging to a person of ordinary skill in the art, because it is no more than "the mere application of a known technique to a piece of prior art ready for the improvement." *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). Therefore, the modification appears to be the product not of innovation but

of ordinary skill and common sense. Moreover, Appellant has not alleged, much less shown, that the modification of the shovel of Hicks and Dawley or Vogel to provide reinforcing ribs as taught by Johnson would have been beyond the skill of a person of ordinary skill in the art. Attaching reinforcing ribs to the shovel of Hicks and Dawley or Vogel using screws or nails would have been within the ordinary skill of art. In conclusion, we agree with the Examiner that:

It would have been obvious to one of ordinary skill in the art to provide reinforcing ribs along the bottom surface of the modified Hick [sic] shovel blade, as was presented above, as taught by Johnson in order to strengthen the resulting blade so that it could handle heavier loads.

Ans. 4.

In conclusion, Appellant's arguments do not persuade us that the Examiner erred in rejecting claim 8 over the combined teachings of Hicks and Dawley or Vogel and Johnson. Therefore, the rejection is sustained.

### CONCLUSIONS

1. Appellant has failed to show that the Examiner's reasoning for combining the teachings of Hicks and either Dawley or Vogel is speculative.
2. Appellant has failed to show that the Examiner erred in construing the limitation "scoop portion" as a portion that acts as a "scoop."
3. Appellant has failed to show that the number of scallops and the particular dimensions of the scoop portion and the scallop radius recited in claims 2-5 patentably distinguish the subject matter of these

- claims over the combined teachings of Hicks and either Dawley or Vogel.
4. Appellant has failed to show that the Examiner's articulated reasoning for modifying the shovel of Hicks and either Dawley or Vogel to include the ribs of Johnson, is not supported by rational underpinning.

#### DECISION

The Examiner's decision to reject claims 1-12 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

#### AFFIRMED

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